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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/518,500

12/20/2004

Gilles Rey-Mermet

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GRIFFIN & SZIPL, PC

SUITE PH-1

2300 NINTH STREET, SOUTH

ARLINGTON, VA 22204

EXAMINER

CHIEN, LUCY P

ART UNIT

PAPER NUMBER

2871

MAIL DATE

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/518,500

Applicant(s)

REY-MERMET, GILLES

Examiner

Lucy P. Chien

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/20/2004</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claim 21-29,32-34,36,37,39,40** are rejected under 35 U.S.C. 102(b) as being anticipated by Majima (US 5724110).

#### Regarding Claim 21,36,

Majima discloses (Fig. 15,19) method of manufacturing at least one device defining a volume for retaining a fluid or a sensitive material that is capable of changing its physical properties, particularly its optical properties, via the application of a voltage, or its electrical properties via stress or radiation, said device including at least a first front substrate and at least a second back substrate maintained at a constant distance from each other, these two substrates being joined by a sealing joint which defines the volume for retaining the sensitive medium or fluid,

wherein said method includes the steps of:

- structuring at least one wall (17a), which defines via its inner lateral face the volume for retaining the sensitive medium (16) or fluid, on one of the substrates (1');
- joining the second substrate (14a) to the first substrate (1');
- introducing a sealing material (17) capable of flowing into the gap defined by the outer lateral face of the wall (7) and the two superposed substrates until at least a part of the

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volume of said gap is occupied by the sealing material, and

-solidifying the sealing material so that the latter forms the sealing frame.

Regarding Claim 22,37,

Majima discloses (Fig. 15,19) wherein it includes the steps of:

- structuring, on one of the substrates, at least one filling channel defined by two walls, which extend at a distance from each other (17a distanced);
- joining the second substrate (14a) to the first substrate (1');
- introducing a sealing material capable of flowing into the filling channel until the entire volume of said filling channel is occupied (7), and
- solidifying the sealing material so that the latter forms the sealing joint.

Regarding Claim 23,

Majima discloses (Fig. 15,19) wherein a batch of devices is made including two plates common to all of the devices and a network of sealed walls defining, for each device, a volume for retaining the sensitive medium or fluid as well as the filling channels which are to be filled with a sealing material to connect the two plates and to form the sealing joints of said devices (shown Fig. 14).

Regarding Claim 24,

Majima discloses (Fig. 15,19) wherein a first plurality of holes for filling the volumes with the fluid or sensitive material (between 17a), and a second plurality of holes (7) for feeding the sealing material, are made in one of the plates.

Regarding Claim 25.

Majima discloses (Fig. 14) wherein one filling channel is shared by at least two adjacent devices.

Regarding Claim 26.

Majima discloses (Fig. 14) wherein one filling channel is shared by at least two adjacent devices.

Regarding Claim 27.

Majima discloses (Fig. 15,19) wherein the sealing material penetrates the gap by capillary action (Column 11, claim 2)

Regarding Claim 28.

Majima discloses (Fig. 15,19) wherein the sealing material penetrates the gap by capillary action (Column 11, claim 2)

Regarding Claim 29.

Majima discloses (Fig. 15,19) wherein it includes the additional steps of:

- creating a vacuum in the filling channel; -causing the sealing material to enter said filling channel, (Column 10, rows 1-5)
- re-establishing the pressure outside the cell such that, via the pressure difference between the filling channel in which the vacuum prevails and the ambient pressure, the sealing material is driven to the bottom of the filling channel (column 8, rows 26).

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Regarding Claim 32,33,34

Majima discloses (Fig. 15,19) wherein the wall or walls are structured by a selective technique or syringe type dispenser for depositing the sealing material (Column 8, rows 26-42).

Regarding Claim 39,40,

Majima discloses (Fig. 15,19) particularly a liquid crystal cell (abstract).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 30,31** are rejected under 35 U.S.C. 103(a) as being unpatentable over Majima (US 5724110) in view of Sasaki et al (US 5089905).

Regarding Claim 30,31,

Majima discloses everything as disclosed above.

Majima does not disclose wherein a layer of photoresist material. is structured by photo-etching techniques to give it the shape of one or several walls, is deposited on one of the substrates.

Sasaki et al discloses wherein a layer of photoresist material. is structured by photo-etching techniques to give it the shape of one or several walls, is deposited on one of the substrates (Column 9, rows 1-5 also see Claim 1).

It would have been obvious to one of ordinary skill in the art to modify Majima's method of making the walls to use Sasaki et al's method of photoetching the photoresist material motivated by the desire to provide the wall and spacers and sealing material.

**Claim 35,38** are rejected under 35 U.S.C. 103(a) as being unpatentable over Majima (US 5724110) in view of Furukawa et al (US 20010043307).

Regarding Claim 35,

Majima discloses everything as disclosed above.

Majima does not disclose wherein the sealing material is selected from the group formed by resins that can be polymerised by sensitization using a light or by heating by raising the temperature of the ambient medium, by cyanoacrylate adhesives, by thermoplastic resins and by dual component adhesives whose components harden over time or via a rise in temperature when they are placed in each other's presence.

Furukawa et al discloses the sealing material is selected from the group formed by resins that can be polymerised by sensitization using a light or by heating by raising the temperature of the ambient medium, by cyanoacrylate adhesives, by thermoplastic resins and by dual component adhesives whose components harden over time or via a rise in temperature when they are placed in each other's presence (Page 4, [0083]) thereby providing a reliable wall that does not change quality when irradiated by light.

It would have been obvious to one of ordinary skill in the art to modify Majima's seal material to include Furukawa et al's sealing material being thermosetting material

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(thermoplastic) motivated by the desire to provide a reliable wall that does not change quality when irradiated by light (Page 4, [0083]).

Regarding Claim 38.

In addition to Majima and Furukawa et al as disclosed above, Majima discloses (Fig. 15,19) particularly a liquid crystal cell (abstract).

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucy P. Chien whose telephone number is 571-272-8579. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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Lucy P Chien  
Examiner  
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ANDREW SCHECHTER  
PRIMARY EXAMINER